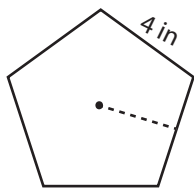


Polygon - Apothem

Example:

Perimeter = number of sides \times side length

$$= 5 \times 4 = \mathbf{20 \text{ in}}$$

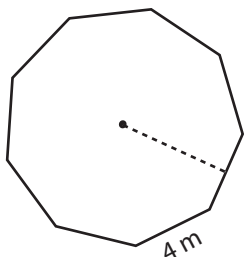
$$\text{Area} = 27.5 \text{ in}^2$$

$$\text{Apothem} = \frac{2 \times \text{area}}{\text{perimeter}}$$

$$= \frac{2 \times 27.5}{20} = \mathbf{2.75 \text{ in}}$$

Find the perimeter and apothem of each polygon.

1)

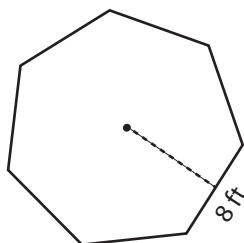


$$\text{Area} = 98.82 \text{ m}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

2)

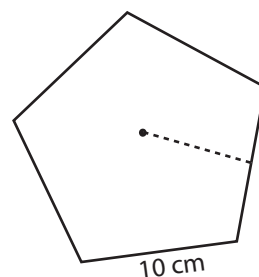


$$\text{Area} = 232.68 \text{ ft}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

3)

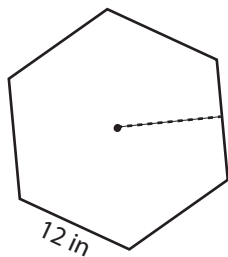


$$\text{Area} = 172 \text{ cm}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

4)

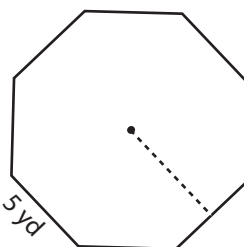


$$\text{Area} = 374.04 \text{ in}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

5)

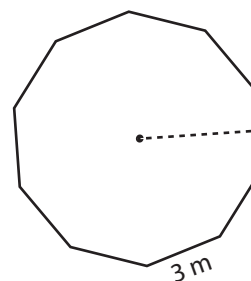


$$\text{Area} = 120.8 \text{ yd}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

6)

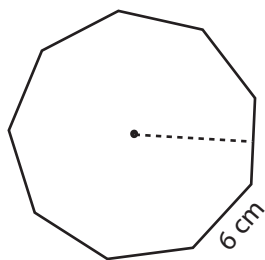


$$\text{Area} = 69.3 \text{ m}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

7)

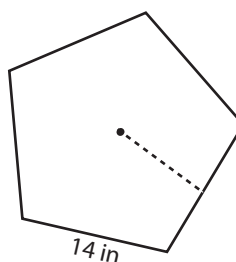


$$\text{Area} = 222.48 \text{ cm}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

8)

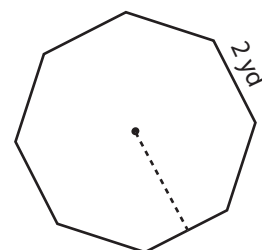


$$\text{Area} = 337.05 \text{ in}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

9)



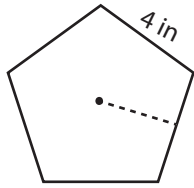
$$\text{Area} = 19.28 \text{ yd}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

Answer Key

Example:

Perimeter = number of sides \times side length

$$= 5 \times 4 = \mathbf{20 \text{ in}}$$

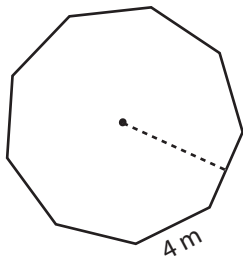
$$\text{Area} = 27.5 \text{ in}^2$$

$$\text{Apothem} = \frac{2 \times \text{area}}{\text{perimeter}}$$

$$= \frac{2 \times 27.5}{20} = \mathbf{2.75 \text{ in}}$$

Find the perimeter and apothem of each polygon.

1)

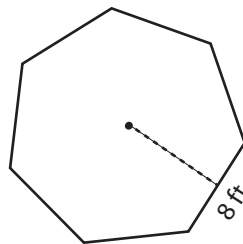


$$\text{Area} = 98.82 \text{ m}^2$$

$$\text{Perimeter} = \mathbf{36 \text{ m}}$$

$$\text{Apothem} = \mathbf{5.49 \text{ m}}$$

2)

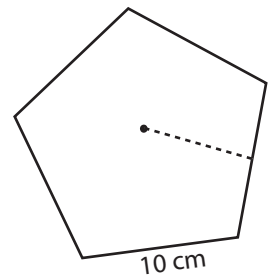


$$\text{Area} = 232.68 \text{ ft}^2$$

$$\text{Perimeter} = \mathbf{56 \text{ ft}}$$

$$\text{Apothem} = \mathbf{8.31 \text{ ft}}$$

3)

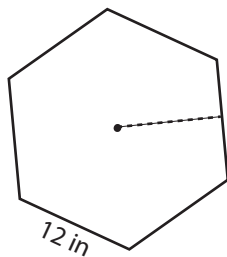


$$\text{Area} = 172 \text{ cm}^2$$

$$\text{Perimeter} = \mathbf{50 \text{ cm}}$$

$$\text{Apothem} = \mathbf{6.88 \text{ cm}}$$

4)

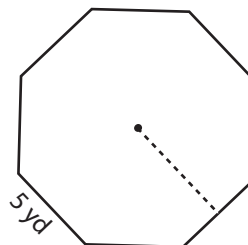


$$\text{Area} = 374.04 \text{ in}^2$$

$$\text{Perimeter} = \mathbf{72 \text{ in}}$$

$$\text{Apothem} = \mathbf{10.39 \text{ in}}$$

5)

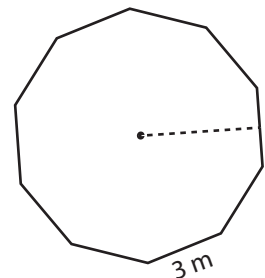


$$\text{Area} = 120.8 \text{ yd}^2$$

$$\text{Perimeter} = \mathbf{40 \text{ yd}}$$

$$\text{Apothem} = \mathbf{6.04 \text{ yd}}$$

6)

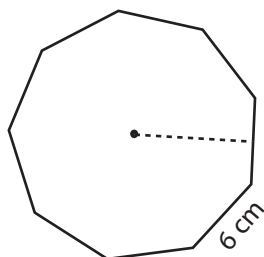


$$\text{Area} = 69.3 \text{ m}^2$$

$$\text{Perimeter} = \mathbf{30 \text{ m}}$$

$$\text{Apothem} = \mathbf{4.62 \text{ m}}$$

7)

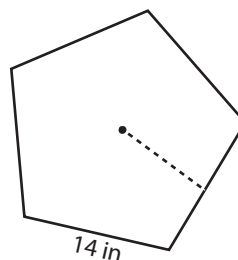


$$\text{Area} = 222.48 \text{ cm}^2$$

$$\text{Perimeter} = \mathbf{54 \text{ cm}}$$

$$\text{Apothem} = \mathbf{8.24 \text{ cm}}$$

8)

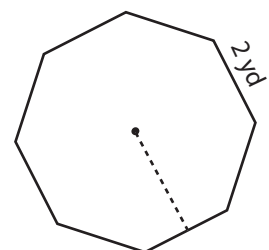


$$\text{Area} = 337.05 \text{ in}^2$$

$$\text{Perimeter} = \mathbf{70 \text{ in}}$$

$$\text{Apothem} = \mathbf{9.63 \text{ in}}$$

9)



$$\text{Area} = 19.28 \text{ yd}^2$$

$$\text{Perimeter} = \mathbf{16 \text{ yd}}$$

$$\text{Apothem} = \mathbf{2.41 \text{ yd}}$$